LEVEL 2 SOLUTIONS BIODIVA™ TD291

The wide variety of selected natural yeast reflects biodiversity, yet this biodiversity is still underexploited despite the large number of species and subspecies (other than *Saccharomyces cerevisiae*) that are present in the grape must. During spontaneous fermentation, the microbial population dynamics result in a succession of enzyme activity that undoubtedly contribute, positively or negatively, to the aromatic complexity and diversity of wine. Lallemand R & D researched use of the non-conventional yeast such as *Torulaspora delbreuckii* used in sequential inoculation with a *Saccharomyces cerevisiae*, to opens up new possibilities for winemakers.

ORIGIN AND APPLICATION

***BIODIVA™* – to enhance aroma and mouthfeel complexity in white and red wines. Also used for fruit wines and cider production**

BIODIVA™ is a pure culture of *Torulaspora delbrueckii*, selected for its properties to complement wine aromatic and mouthfeel complexity. Used in sequential inoculation with a compatible selected *Saccharomyces cerevisiae* yeast studied and recommended by Lallemand, ***BIODIVA™*** will help control development of the wines aromatic complexity by favouring the perception of certain esters without overwhelming the wines.

Due to its low volatile acid production and its tolerance to osmotic shock, ***BIODIVA™*** is particularly adapted for fermenting late harvest and ice wines.

Highly recommended for for Chardonnay, Semillon and dessert style/ botrytised wines. Has also been used on Pinot Noir and Shiraz with success.

MICROBIAL AND OENOLOGICAL PROPERTIES

- Species: *Torulaspora delbrueckii*
- Fermentation temperature: >16°C (60°F). The temperature of the juice, must be greater than 16°C (60°F) at inoculation for fermentation to start.
- Lag phase is moderate, unless temperature of juice/must is below 16°C (60°F).
- When used for fermenting high Brix sweet wine, usage of Go-Ferm Protect Evolution™ is recommended to protect against osmotic shock.
- Volatile acidity production: very low.
- Very good compatability with malolactic fermentation
- To be used in sequential inoculation with a suitably paired *Saccharomyces cerevisiae*. Refer to next page for a list of recommended *S. cerevisiae* yeasts to pair with ***BIODIVA™***

INSTRUCTION FOR USE

TO BE USED IN SEQUENTIAL INOCULATION AS FOLLOWS

*Before inoculation, make sure that the free SO_2 level is lower than 15mg/L and the temperature of the juice /must is greater than 16°C (60°F).

INSTRUCTION FOR USE

1st Inoculation: BIODIVA™

Inoculate at 25g/hL (2lb/1000gal): Rehydrate the yeast in 10 times its weight of water at 30°C (86°F). After 15 minutes, stir gently. To help the rehydrated yeast acclimatise to the cooler juice temperature and avoid cold shock, slowly combine an equal amount of juice with the yeast rehydration solution (this step may need to be repeated), until the yeast suspension is within 10°C (50°F) of the juice to be inoculated. Total rehydration time should not exceed 45 minutes. Allow the ferment to proceed until the Brix has reduced by approximately 4°Brix, and then over-seed with a suitably paired *S. cerevisiae* yeast (2nd inoculation)

2nd Inoculation: *Saccharomyces cerevisiae* – Refer to table below for a list of suitably paired *S. cerevisiae* yeast

After a density drop of approximately 4°Brix, proceed to the second innoculation with 25g/hL (2lb/1000gal) of one of the recommended *S. cerevisiae* yeast. Following the classical rehydration acclimatisation and handling protocol for *S.cerevisiae*.

COMPATIBLE *SACCHAROMYCES CEREVISIAE* YEASTS

The final sensory outcome of BIODIVA™ is the contribution of both the non-conventional yeast and the paired *Saccharomyces cerevisiae* yeast. Lallemand has extensively researched and trialled many combinations of *T. delbreuckii* and *S. cerevisiae*. We have found that there are compatible and also incompatible yeast, the definitions of which are:

Incompatible - Incompatible yeast have been defined as the paired *S.cerevisiae* yeast that do not have desirable fermentation kinetics. This could be due to numberous reasons such as amensalism, where the metabolites of one yeast are inhibitory to another, or due to competition, where both yeasts use the same substrates which can result in a mutually detrimental interaction.

Compatible - yeasts are defined as the paired *S. cerevisiae* yeasts that have desirable fermentation kinetics and desirable organoleptic outcomes.

Lallemand have investigated numerous yeasts but not all of them. Hence if you have a particular yeast you would like to use, please conduct a trail. Alternativeley contact a Lallemand representative, as we may have feedback, not yet added to this list.

Compatible *Saccharomyces cerevisiae* yeasts to be paired with BIODIVA™

Yeast	Suggested Varieties	Sensory contribution
Uvaferm BDX™	**Red Varieties** such as Cabernet Sauvignon, Merlot, Shiraz, Tempranillo	Complements varietal character, mouth-feel and contributes to colour stability.
Lalvin ICV D254™	**Red varieties** and Chardonnay	Complements mouth-feel due to the production of polysaccharides. In Chardonnay produces nutty aromas and creamy mouth-feel.
Lalvin QA23™	**White varieties** such as Chardonnay, Semillon, Pinot Gris, Viognier	Complements varietal characters. High terpene and thiol releaser.
Lalvin RC212™	**Pinot Noir and light red varietals**	Complements varietal character and contributes structure and spiciness to Pinot Noir wines.
Lalvin Rhone 2056®	**White and red varieties**	Complements varietal character and contributes to colour stability.

PACKAGING AND STORAGE

Store in a cool and dark place in original packaging.

The information herein is true and accurate to the best of our knowledge; however, this data sheet is not to be considered as a guarantee, expressed or implied, or as a condition of sale of this product.

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